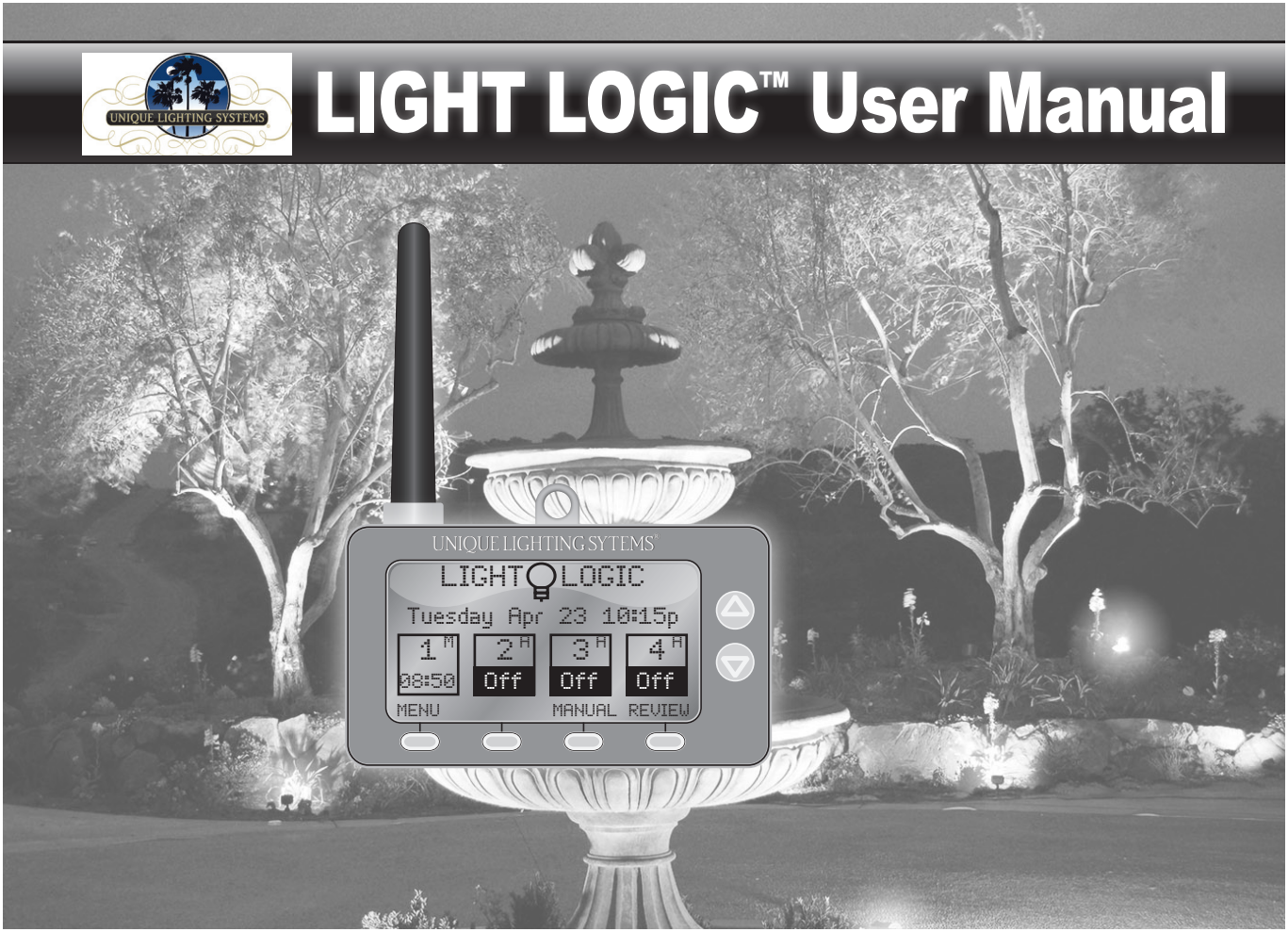
LIGHT LOGIC™ User Manual



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Introduction

Thank you for purchasing the LIGHT LOGIC™ lighting controller from Unique Lighting. The LIGHT LOGIC controller is a flexible and powerful lighting system controller giving you the ability to set up different lighting scenes at different times for the different activities and needs of your property. Typical lighting needs might include security, entertainment, and holiday lighting, among others.

Please go to Unique Lighting's website to see our full line of lighting products including transformers, high-quality lighting fixtures, and energy saving LED lamps:

www.uniquelighting.com

Contact Information

If you encounter problems during setup and/or operation of the LIGHT LOGIC controller, please contact an authorized Unique Lighting product expert for assistance via phone or email.

U.S./Canada:

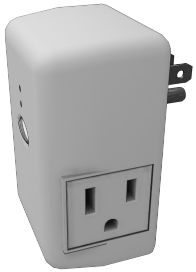
Phone: 1-800-955-4831 (7:00 am–4 pm, Mon–Fri, PT)

Overview

The LIGHT LOGIC system consists of three pieces:

1. **LPRO** (Lighting Programming) - create and schedule scenes and more.
2. **LPCU** (Lighting Power Control Unit) - receives commands from the LPRO to control the transformer.
3. **LRMT** (Lighting Remote) - this optional remote allows operators to control their lighting systems, from troubleshooting to adjusting light scenes, while walking the property.

LPRO



LPCU

LRMT

Overview (cont'd)

LPRO Screen and Controls

There are four command buttons on the bottom of the LPRO unit and two value adjustment buttons on the right side.

1. **Command buttons** execute the command displayed above the button. In **Figure 1**, for example, the button labeled MANUAL activates the Manual menu.

2. **Value adjustment buttons** (and) change menu selections and/or numeric values of the specified field. For example, in **Figure 2**, the and buttons increase or decrease the manual runtime.

Figure 1

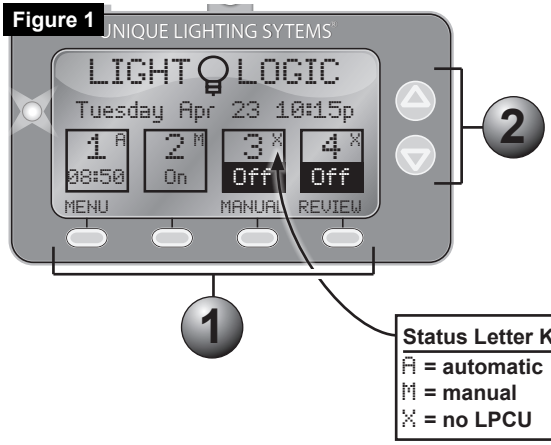
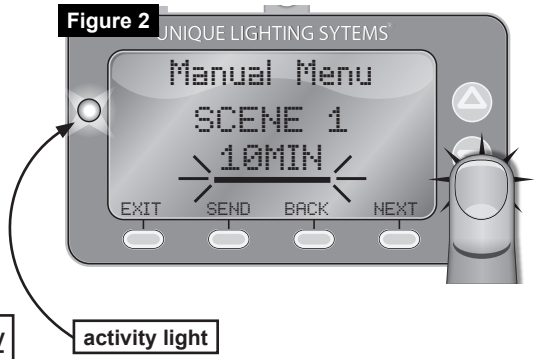
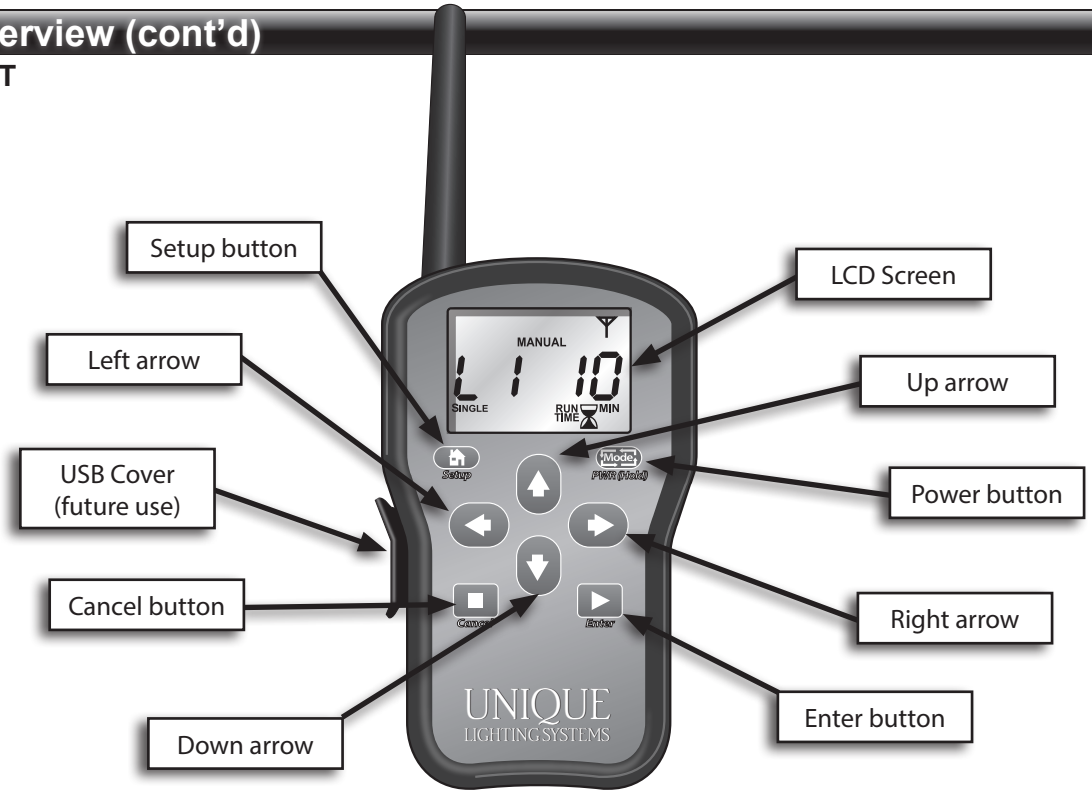


Figure 2



Overview (cont'd)

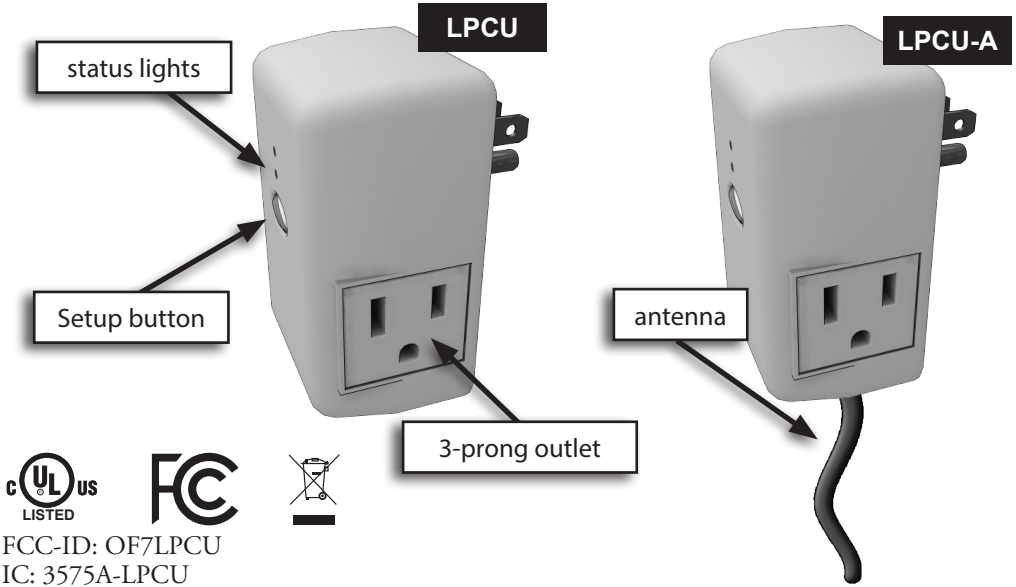
LRMT



Overview (cont'd)

LPCU

There are two versions of the LPCU, one with an antenna (LPCU-A), one without (LPCU).



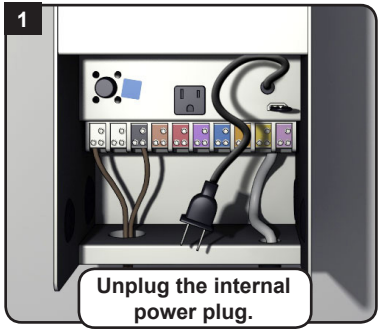
FCC-ID: OF7LPCU
IC: 3575A-LPCU

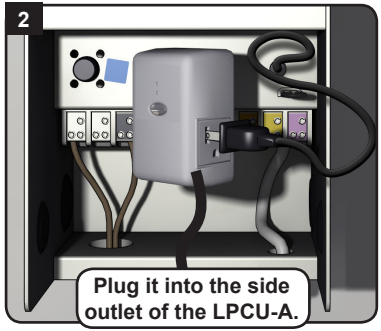
WARNING: *Disconnect power to transformer before installing LPCU.*

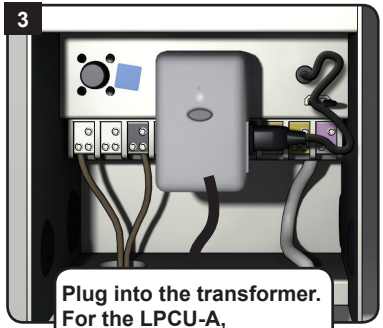
Installation and Setup

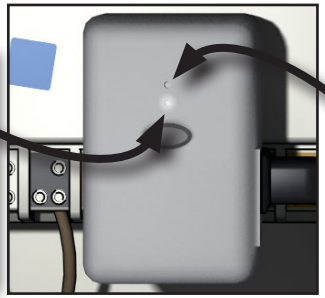
The LPCU and LPCU-A work with any residential transformer with an internal AC outlet. One can also plug the unit into a wall outlet and then plug an electronic device into the LPCU's own outlet, such as holiday lights or a fountain.

LPCU / LPCU-A Installation and Operation with a residential transformer









Green Indicator

- Mostly green, with an occasional flash, indicates the LPCU is currently energizing the attached transformer or device.
- Mostly off, with an occasional flash of green, indicates that the LPCU is plugged in but not currently energizing the transformer or device.

Red Indicator

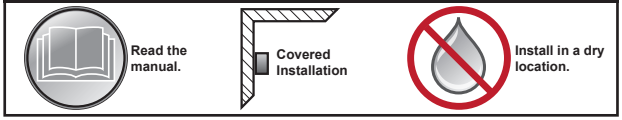
When illuminated, the LPCU is currently accepting a communication.

⚠ CAUTION

- Not for water immersion or for use where directly exposed to water.
- When used outdoors, receptacle shall be a listed weather-resistant type and be mounted in an approved “weatherproof while in use” type outlet box 16 inches above ground level.

- Must be installed in a 3R outdoor rated transformer or in a GFCI protected electrical outlet with a weatherproof enclosure.

⚠ WARNINGS



RISK OF ELECTRIC SHOCK

- Disconnect power before servicing or installing.
- Not rated for direct spray from rain or sprinklers; do not use in wet locations.
- Fully insert plug into outlet.
- Unplug before cleaning.
- Keep children away.

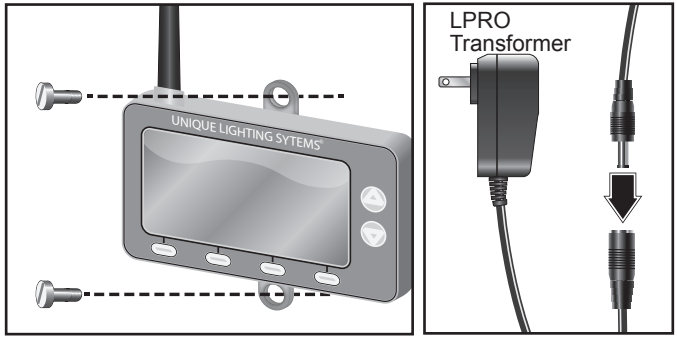
RISK OF FIRE

- Do not use with an extension cord.
- Do not use to control appliances that contain heating elements (cooking appliances, heaters, irons, etc.).
- Do not exceed electrical ratings.

LPRO Installation

The LPRO unit comes with two mounting screws for easy wall installation.

1. Mount the LPRO in a convenient indoor location such as a garage or utility room. The LPRO does *NOT* need to be installed adjacent to the transformer. (The range of the LPRO to LPCU is 1000' line-of-sight, though walls can reduce the range.)
2. Plug the LPRO transformer into an outlet. Connect the two lengths of power cable together.



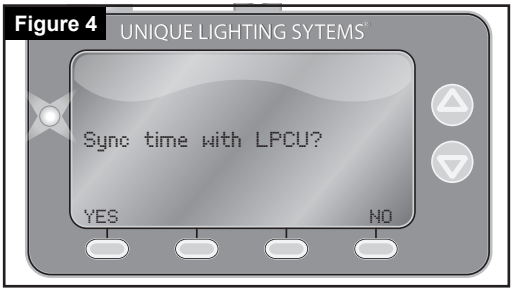
For the LPRO to be able to communicate with the LPCU, it needs to be synced much like a cell phone and bluetooth device need be synced.

When you plug in the LPRO for the first time, you will be prompted to set the date and time.

Figure 3

Setup: Date and Time

1. Use ▲ and ▼ to change the value of the underlined field (**Figure 3**). Press NEXT to switch to the next field.
2. Repeat step 1 for the **day** and **year** field.
3. Repeat step 1 for the **hour** and **minute** field.
4. Repeat step 1 for the **time zone** field.
5. Press DST to use Automatic Daylight Savings Adjustment. If you live in a state that does *not* use daylight savings (AZ, HI), do *not* turn on this feature.
6. Press 12/24 to switch from a 12-hour to a 24-hour clock.
7. When done, press SAVE.
8. The LPRO prompts to sync the LPRO time to the LPCU (**Figure 4**).

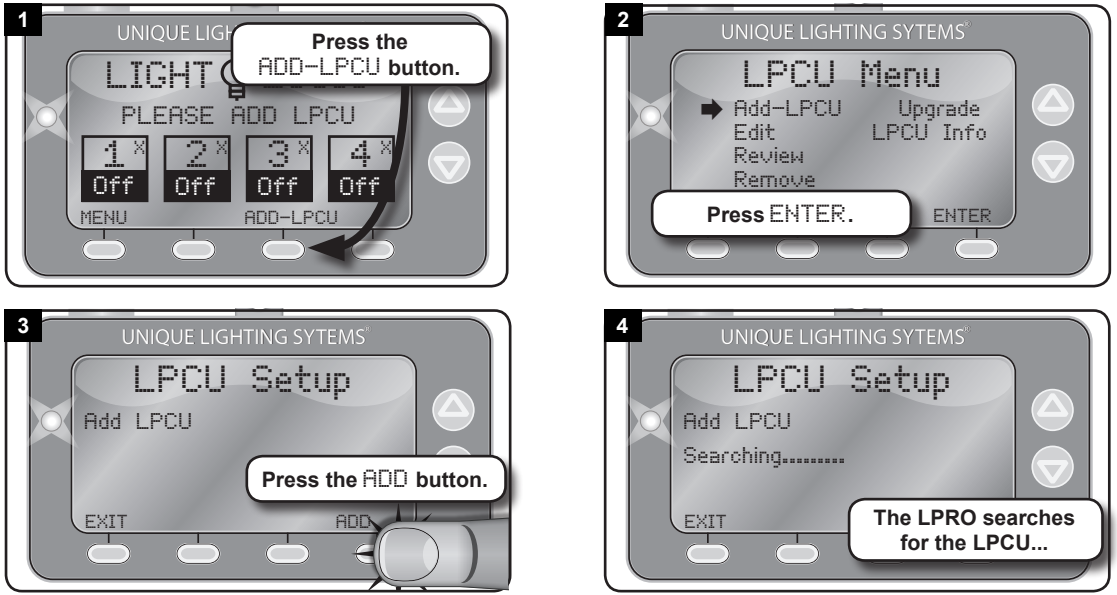


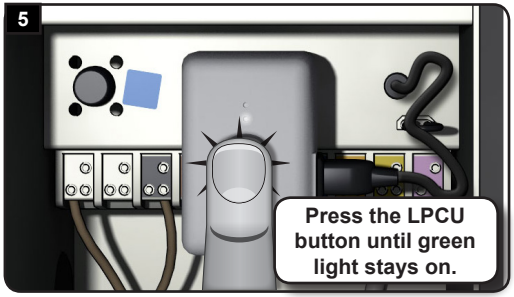
If the LPCU is NOT powered, it is NOT possible to sync the LPCU and LPRO. Press NO to save time.

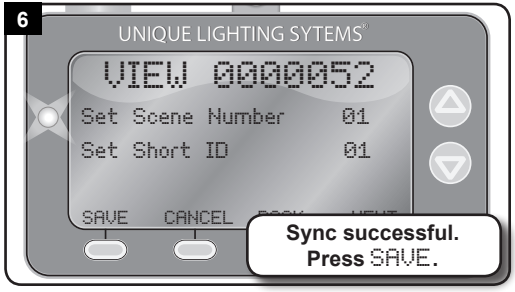
- YES attempts the sync. If no LPCU is detected (as in, one has not been added yet), the user is prompted to add an LPCU (see **Figure 5**). After pressing any key, the LPRO will display the Light Logic Scene screen (see step 1, page 10).
- NO bypasses the sync. The LPRO will display the Light Logic Scene screen (see step 1, page 10).

Setup: Adding the First LPCU

You will be prompted to PLEASE ADD LPCU.



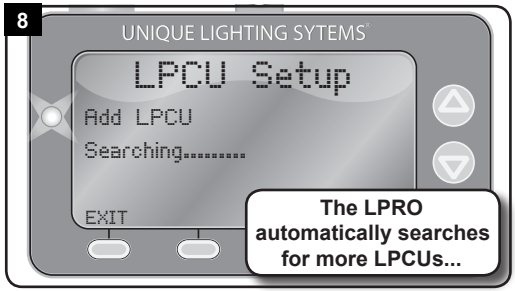


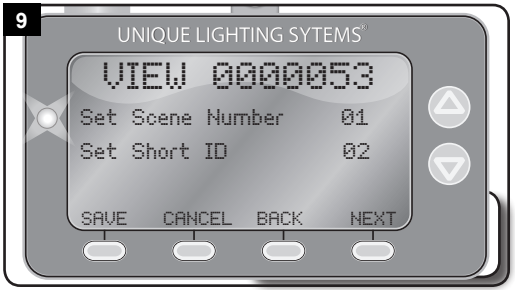


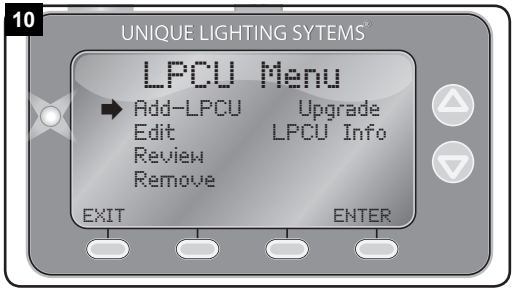
Step 6 Explanation: The long number on the top of the screen is the ID number of the found LPCU.

`Set Scene Number`: Use and to specify the lighting scene (1 through 4) that this LPUC will use (and transformer). It is possible to assign multiple LPCUs (thus multiple transformers) to one lighting scene. Press `NEXT`.

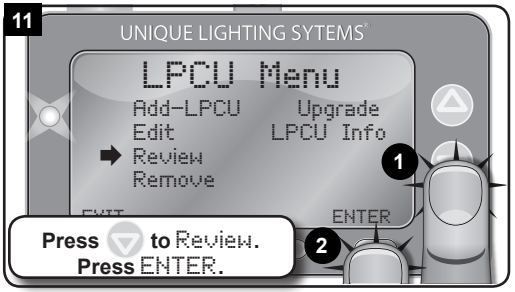
`Set Short ID`: Use and to assign a short ID number to this LPCU for future ease of use. Press `SAVE`.

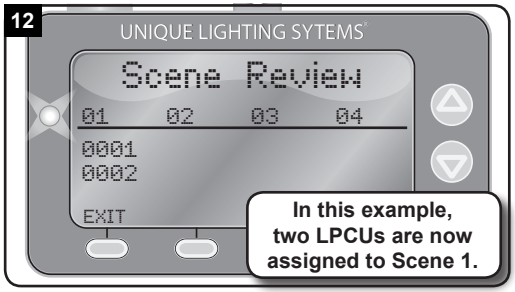






Step 9 Explanation: Repeat steps 5-9 until all LPCUs are found and assigned.
Then, from **step 8**, press EXIT twice and the LPRO LPCU Menu screen will be displayed (**step 10**).





Setup: Location

1. From the Main Menu screen (**Figure 6**), press ▽ to Location and press ENTER.
2. Use △ and ▽ to change the value of the underlined field (**Figure 7**). Press NEXT to switch to the next field.
3. Repeat step 2 for the next four zip code fields.
4. Press the SUN button to adjust dusk and dawn offsets. This shifts the Dusk or Dawn option X mins before or after the actual Sunrise or Sunset event for your location. For example, if sunset is at 7:32pm but the Dusk Offset is -20 mins, the lights will come on at 7:12pm (7:32-:20).
5. To set location using latitude and longitude, press the LAT button and follow the same procedure in step 2 to enter the coordinates.

To determine your Latitude and Longitude settings, use Google Maps™ or a GPS app.

Setup of the LPRO is complete.

Figure 6

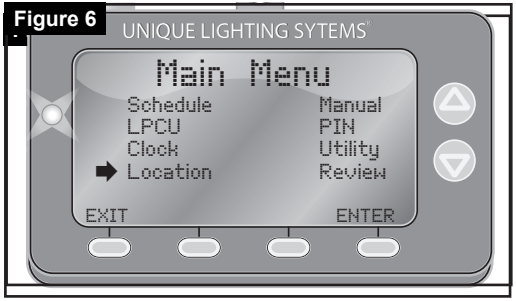
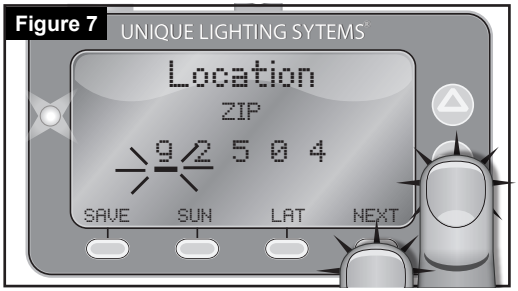


Figure 7



Basic Programming

Basic Programming covers **scheduling** the different lighting scenes, **manual operation**, and **reviewing schedules**.

Scheduling Scenes

Each scene has 4 start times and 4 stop times. Only 2 of each are visible on the LPRO at any one time, so each scene is split into 2 screens, “A” and “B”. To program all four start and stop times, one must access both “A” and “B” scene screens.

⚠ If a scene’s start and stop times overlap a start and stop time in the same scene set for the same days, the “overlapped” start and stop times will *not* be triggered. *Definitely* review all 4 start and stop times (both “A” and “B” screens) per scene to confirm there is no overlap.

1. From the default screen (**page 3**), press MENU.
2. The Main Menu screen (**Figure 8**) defaults to Schedule. Press ENTER.
3. The Scene scheduling screen appears.
   - Use ▲ and ▼ to change the value of the underlined field (**Figure 9**).
   - Press NEXT and BACK to switch fields.
   - Days of the week are ON by default. Pressing ▲ or ▼ while flashing will turn the day off, indicated by an X.

Figure 8

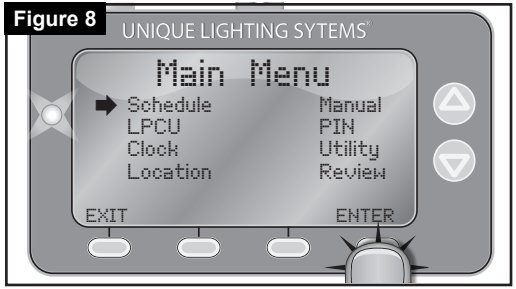
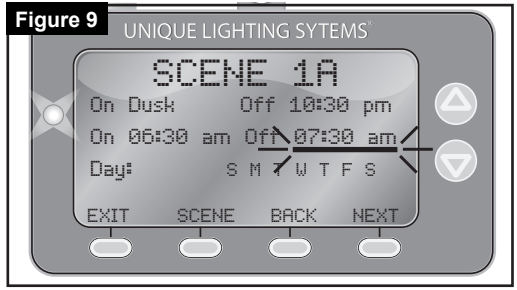
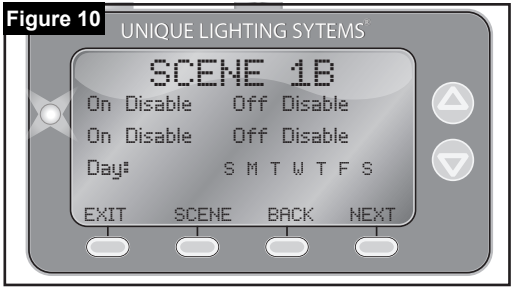


Figure 9



4. To access the next 2 start and stop times, press SCENE. LPRO will display the "B" scene screen (**Figure 10**).
5. Repeat step 3 to schedule additional start and stop times.
6. To program additional scenes, press SCENE. If finished scheduling, press SAVE or EXIT.
7. The LPRO prompts: Save and send Changes? Pressing YES saves scheduling changes. Pressing NO cancels scheduling changes.

Figure 10

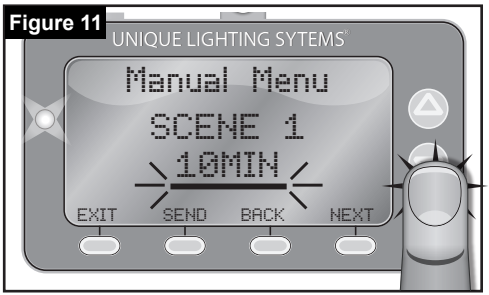


Manual Operation

To manually activate lighting scenes:

1. From the Home screen (**front cover**), press MANUAL.
2. The system defaults to OFF but can be changed to ON or specified to run for a number of minutes or hours. Use ▲ and ▼ to change the runtime of the scene (**Figure 11**).
3. Available commands:
   - NEXT switches to the next lighting scene.
   - SEND activates the light scene for the specified time.
   - EXIT returns LPRO to the Main Menu.
   - BACK returns to the previous lighting scene.

Figure 11



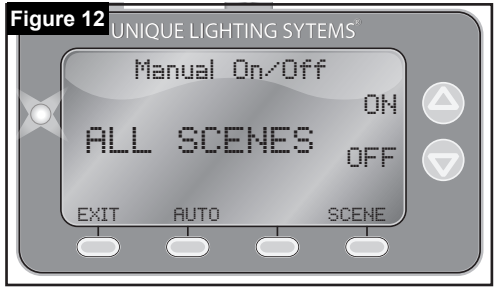
All On or All Off

It is possible to turn ON all scenes at once, turn OFF all scenes at once, or do so by individual scene.

1. From the Home screen (**front cover**), press ▲ or ▼.
2. You will see a screen like **Figure 12**.

- To turn OFF all scene lighting, press the OFF button.
- To turn ON all scene lighitng, press the ON button.
- To select to a particular scene, press the SCENE button.
- To resume the automatic schedule immediately , press the AUTO button.
- To exit, press the EXIT button.

Figure 12

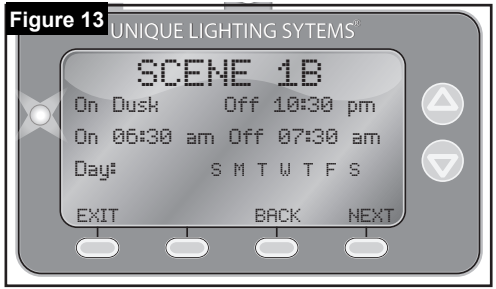


Review

This is a quick way to review the schedules of the four different light scenes. Scheduling changes are not possible in Review mode.

1. From the default screen (**page 3**), press REVIEW or from the Main Menu screen (**Figure 14 on opposite page**), use ▲ and ▼ to move to Review. Press ENTER.
2. You will see a screen similar to **Figure 13**.
   To review the next scene, press NEXT.
   To review the previous scene, press BACK.
3. Press EXIT to exit Review mode.

Figure 13



Advanced Programming

Advanced Programming covers LPCU administration, setting a PIN for access by a lighting remote, and the Utility menu, detailed on page 15.

LPCU Administration

1. From the Main Menu screen (**Figure 14**), navigate to LPCU and press ENTER.
2. The LPCU Menu will be displayed (**Figure 15**).
   The possible commands:
   - Add-LPCU: add a LPCU that the LPRO can access
   - Edit: change Scene and Short ID information for a specified LPCU.
   - Review: review which LPCU is assigned to which scene
   - Remove: remove a LPCU from a lighting scene
   - Upgrade: upgrade the LPCU firmware
   - LPCU Info: view LPCU information such as firmware and hardware version, short ID, and more.
3. Use ▲ and ▼ to move to the desired menu selection. Press ENTER.

Figure 14

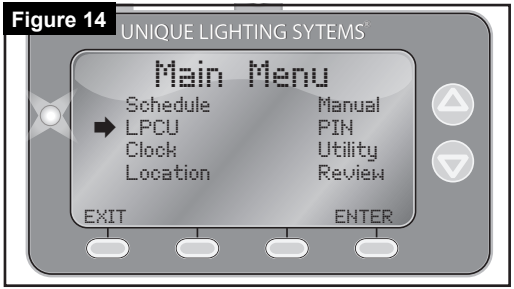
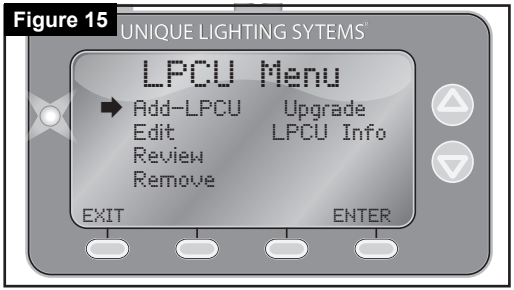


Figure 15



Add-LPCU

To add additional LPCU's, press ENTER on ADD-LPCU then follow the steps on **pages 10-12**.

Edit

1. You will see a screen similar to **Figure 16**. Press SCENE to select the desired scene.
2. If more than one LPCU is assigned to a lighting scene, use ▲ and ▼ to select the desired LPCU. Press ENTER.
3. Use ▲ and ▼ to Set Scene Number. Press NEXT.
4. Use ▲ and ▼ to Set Short ID.
5. Other commands available:
   - BACK switches to the previous field.
   - CANCEL cancels edits.
6. When done making changes, press SAVE.
7. You will return to the current Scene. If there are more changes to make, repeat steps 1 through 6.
8. Press EXIT to return to the LPCU Menu.

Figure 16

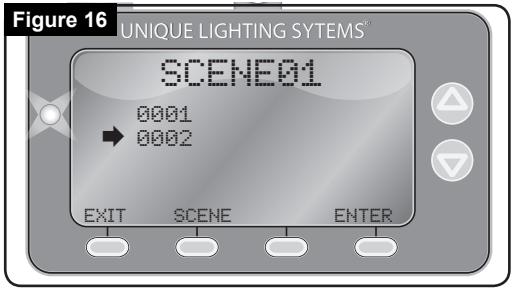
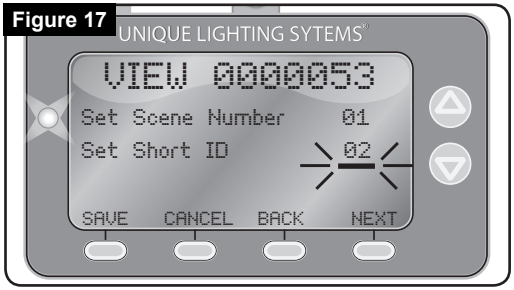


Figure 17



Review

1. Allows you to see a list of all LPCUs, by Short ID, assigned to their respective lighting scenes (**Figure 18**).
2. Click EXIT to return to the LPCU Menu.

Remove

1. You will see a screen similar to **Figure 16** (previous page). Press SCENE to select the desired scene.
2. If more than one LPCU is assigned to a lighting scene, use ▲ and ▼ to select the desired LPCU to remove. Press ENTER.
3. Confirm the removal of the specified LPCU from the specified scene by pressing YES. Press NO to cancel.

Upgrade

This command is for updating the LPCU firmware.

Figure 18

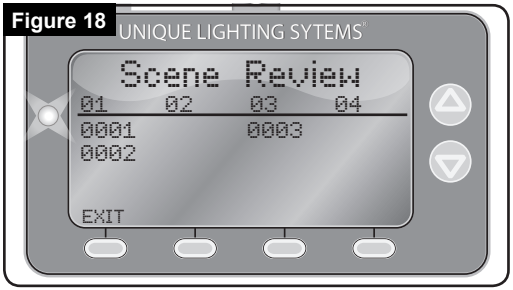
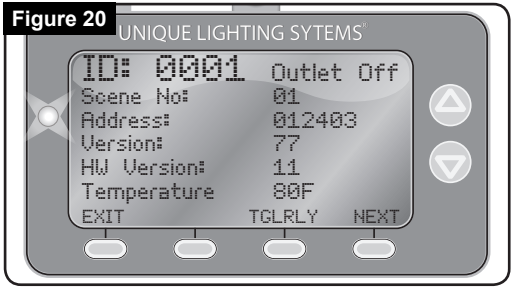


Figure 19

LPCU Info

1. You will see a screen similar to **Figure 16** (page 18). Press SCENE to switch to the desired scene.
2. If more than one LPCU is assigned to a lighting scene, use ▲ and ▼ to select the desired LPCU. Press ENTER.
3. LPCU Information will be displayed (**Figure 20**). Hit EXIT to return to the Scene selection screen.
4. Press TGLRLY (toggle relay) to turn the LPCU on or off.
5. Press NEXT to review the LPCU's internal date and time.

Figure 20



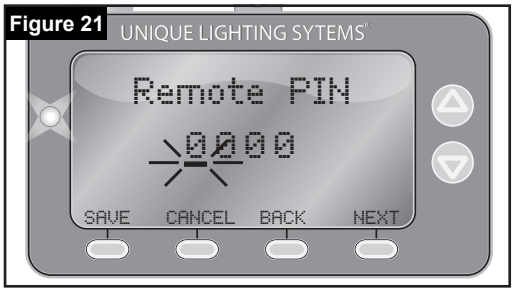
PIN

The PIN command is available from the Main Menu. Set a PIN to send secure commands to the LPRO from a Unique Lighting remote. The optional remote allows for field control of the system; extend hours, all on or all off security, troubleshooting, and more.

1. You will see a screen similar to **Figure 21**. Use ▲ and ▼ to change the underlined PIN digit. Press NEXT.
2. Repeat step 1 for the next three digits of the PIN. Press SAVE.
3. Other commands available:

- BACK switches to the previous field.
- CANCEL cancels edits.

Figure 21



Utility Menu

The Utility Menu (**Figure 22**) controls language settings, screen contrast, firmware version, and more.

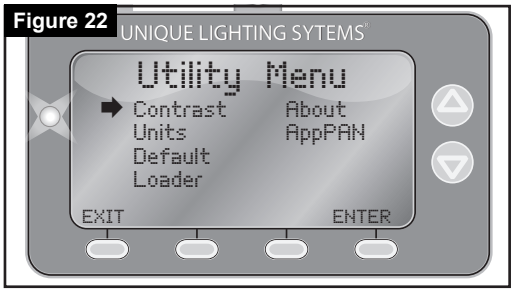


Figure 22

Contrast

Set the contrast level of the LCD screen.

Units

Set the Units to be either Metric or English.
Set the Time Format to be either 12 hour or 24 hour.

Default

This will reset the LPRO back to the factory default, wiping out all paired LPCU information and all scheduling.

Loader

This command is for updating the LPRO firmware.

About

This displays certain information about your LPRO device which might be useful for troubleshooting information (**Figure 23**).

Figure 23

AppPAN

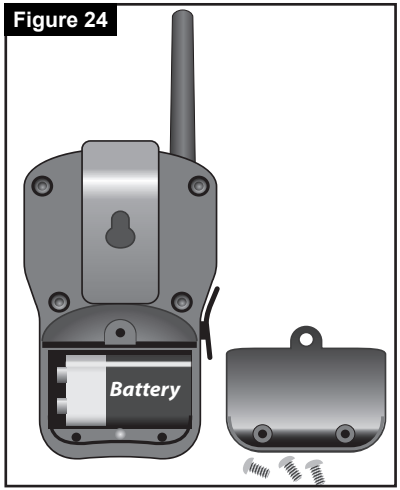
This displays your LPRO's network ID. Do not change.

Battery Installation

The remote receives power from a 9-volt battery (not included).
To install the battery:

1. Remove the three (3) screws from the battery cover on the back of the remote, then remove the battery cover.
2. Snap the battery onto the battery clip and place the battery into the compartment.
3. Reinstall the battery cover with the three screws.

Figure 24



Setting the PIN

After setting the PIN in the LPRO (page 19), it is necessary to set the PIN in the remote.

1. Press Mode PWR(Hold) to turn on the remote transmitter.
2. Press Setup until "SET PIN" appears on the screen.
3. Press ▲ or ▼ to set the first digit of the PIN number. Press ► to move to the next digit.
4. Repeat step 3 to set the other numbers in the 4-digit PIN.
5. Press ► Enter to save the PIN.

Figure 25

Remote Power

1. Press Mode PWR(Hold) to turn on the remote.
2. Press and hold Mode PWR(Hold) about two seconds to turn off.

Turning off the remote does not turn off a scene in operation. (See **Stop All Lighting** to stop an active scene.)

Automatic Power Down of Transmitter

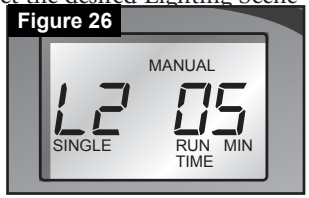
The remote powers down after five minutes of button inactivity to extend battery life.

Manual Operation

To Start a Single Lighting Scene:

1. Turn on the remote. It defaults to Manual mode.
2. Press ▲ or ▼ to select the desired Lighting Scene (L1 - L4).
3. Press ► to move to the runtime.
4. Adjust runtime with ▲ and ▼.
5. Press ► Enter to begin lighting run.

Figure 26



Lighting scene 2 is set to run for 5 minutes.

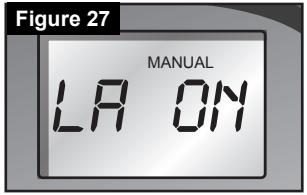
To Cancel a Single Scene
Select the currently running scene and press Cancel.

To Run All Lighting:

Running all scenes is useful for troubleshooting a lighting system.

1. Press ▲ several times to display "LA on".
2. Press ▶ Enter to turn on all light scenes.

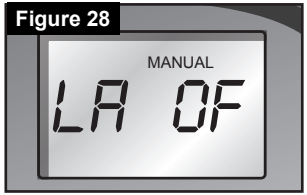
Figure 27



To Stop All Lighting:

1. Press ▲ several times to display "LA oF" (off).
2. Press ▶ Enter to turn off all light scenes.

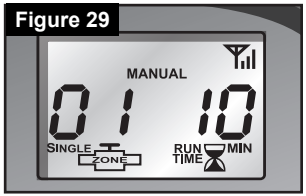
Figure 28



To Change from One Running Scene to Another:
It is possible to run more than one individual scene at a time. Start a single lighting scene (above), then simply move to the next scene and repeat the same steps. Previously running scenes continue.

Irrigation Mode
It is possible to inadvertently switch the remote from "Lighting" mode to irrigation mode (**Figure 29**). To get back to Lighting mode, press and hold down Mode PWR(Hold) until the screen displays LITE.

Figure 29



The LMRT in irrigation mode.

Unique Lighting's handheld remote is compatible with the Climate Logic™ weather sensing system by Irritrol for residential irrigation systems. If the Climate Logic system is already owned, it is possible to control the irrigation system with the Unique Lighting LMRT remote. For irrigation system operation, please see the Irritrol remote user manual available from Irritrol's website, www.irritrol.com.

Specifications

LPCU

- Model: LPCU, LPCU-A
- LPCU Dimensions (excluding power prongs): 1.94” W x 2.94” H x 2” D 4.93 cm W x 7.46 cm H x 5.08 cm
- 120VAC, 60Hz
- 15A, 1800W Resistive/General Purpose
- 8A, 960 W Tungsten ½ HP
- Relative humidity: 90%
- Max Operating ambient: 50°C (122°F) Min. Operating ambient: -10°C (14°F)
- Indoor use. Suitable for damp location.
- 5-year warranty

LPRO

- Input Power: 5v DC
- LCD Screen Dimensions: 2.5” W x 1.25” H 6.35 cm W x 3.18 cm H
- LCD Contrast Adjustment
- Dimensions: 3.25” H (5.375” w/antenna) x 4.125” W x 0.75” D 8.26 cm H (13.16 cm w/ antenna) x 10.48 cm W x 1.9 cm D
- Indoor Installation
- 5-year warranty

LRMT

- Dimensions US: 2.75” W x 7” H (over 2” antenna) x 1.25” D (including mounting clip)
- Dimensions metric: 7 cm W x 17,8 cm H (over 5 cm antenna) x 3.2 cm D (including mounting clip)
- 9V Alkaline battery
- Operating temperature range: 14° – 140° F (-10°– 60°C)
- 5-year warranty

Warranty & FCC Information

Warranty

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrants, to the owner, against defects in material and workmanship for a period of five years from the date of purchase. Neither The Toro Company nor Toro Warranty Company is liable for failure of products not manufactured by them even though such products may be sold or used in conjunction with Toro products. During such warranty period, we will repair or replace, at our option, any part found to be defective. Return the defective part to the place of purchase.Our liability is limited solely to the replacement or repair of defective parts. There are no other express warranties. This warranty does not apply where equipment is used, or installation is performed, in any manner contrary to Toro's specifications and instructions, nor where equipment is altered or modified. Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of equipment, including but not limited to: vegetation loss, the cost of substitute equipment or services required during periods of malfunction or resulting non-use, property damage or personal injury resulting from installer's negligence.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. All implied warranties, including those of merchantability and fitness for use, are limited to the duration of this express warranty. Some states do not allow limitations of how long an implied warranty lasts, so the above limitation may not apply to you.This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Toro is committed to developing and producing the highest quality, best performing, most dependable products on the market. Because your satisfaction is our first priority, we have provided the Toro Helpline to assist you with any questions or problems that may arise. If for some reason you are not satisfied with your purchase or have questions, please contact your local authorized Toro dealer or e-mail irrigation.support@toro.com.

FCC Rules

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that my cause undesired operation.

FCC Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How To Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, stock # 004-000-00345-4.

This Class B digital apparatus complies with Canadian ICES-003. International: This is a CISPR 22 Class B product.

Notes

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